

WHAT IS CLAIMED IS:

1. A method for capturing image and defect information from an image scanned from a medium, comprising the steps of:

5 transmitting visible light from a first light source through the medium to capture image and defect information by a sensor unit during every scan position; and

transmitting infrared light from a second light source through the medium to capture defect information by the sensor unit during every third scan position.

2. A method according to claim 1, further comprising the steps of:

10 aligning the sensor unit and/or the medium in a first alignment for transmitting visible light; and

aligning the sensor unit and/or the medium in a second alignment for transmitting infrared light.

3. A method according to claim 1, wherein visible light and infrared light are not transmitted simultaneously through the medium.

4. A method according to claim 1, wherein the medium comprises one of a film, a document, and a photograph.

5. A method according to claim 1, wherein the steps of transmitting visible light and infrared light through the medium occur during a first pass.

20 6. A method according to claim 1, wherein the step of transmitting visible light occurs during a first pass and the step of transmitting infrared light occurs during a second pass.

7. A method according to claim 1, wherein every scan position comprises three separate scan lines, each scan line associated with either a red, green, and blue channel of the sensor unit.

8. A method for capturing image and defect information from an image scanned from a medium, comprising the steps of:

- (1) alternatively transmitting visible light and infrared light through the medium for each scan line up to n lines;
- 5 (2) transmitting only visible light through the medium at each scan line for the next 2n scan lines after performing step (1); and
- (3) repeating steps (1) and (2) until all image and detect information is captured.

9. A method according to claim 8, wherein n equals a pixel pitch multiplied by a sensor line pitch divided by a scanning rate.

10 10. A method for capturing image and defect information from an image scanned from a medium, comprising the steps of:

transmitting visible light from a first light source through the medium to capture image and defect information by a sensor unit during every scan position; and

transmitting infrared light from a second light source through the medium to capture defect information by the sensor unit during every scan position.

11. A method according to claim 10 further comprising the steps of:

aligning the sensor unit and/or the medium in a first alignment for transmitting visible light; and

aligning the sensor unit and/or the medium in a second alignment for transmitting infrared light.

12. A method according to claim 10, wherein visible light is transmitted through the medium before the infrared light is transmitted.

13. A method according to claim 10, wherein the medium comprises one of a film, a document, and a photograph.

25 14. A method according to claim 10, wherein the step of transmitting visible

light and infrared light through the medium occur during a pass.

15. A method according to claim 10, wherein the step of transmitting visible light occurs during a first pass and the step of transmitting infrared light occurs during a second pass.

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16. A method according to claim 10, wherein every scan position comprises three separate scan lines, each scan line associated with either a red, green, and blue channel of the sensor unit.

17. A scanner used for capturing image and defect data from a surface of a medium containing an image thereon, comprising:

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a first light source and a second light source;

15 a first switch coupled to the first light switch and a second switch coupled to the second light source;

a power supply coupled to the first and second light switches;

20 a sensor unit having a multi-linear imager and optical lens, the optical lens adapted to focus light transmitted through the surface of the medium to the multi-linear imager, thereby capturing image and defect information;

an analog to digital converter adapted to convert the image and defect information to digital image and defect data;

25 a transport mechanism adapted to align the sensor unit and/or the medium for capturing the image and defect information; and

a controller adapted to control the first switch, the second switch, the transport mechanism, and the sensor unit.

18. An apparatus according to claim 17, wherein the first light source generates visible light, and the second light source generates infrared light.

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19. An apparatus according to claim 17, wherein the first light source is used to capture image and defect information and the second light source is used to capture

defect information

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20. An apparatus according to claim 17, wherein the first light source and the second light source do not generate light simultaneously.
  21. An apparatus according to claim 17, wherein the transport mechanism aligns the sensor unit and/or the medium in a first alignment for capturing image information and in a second alignment for capturing defect information.
  22. An apparatus according to claim 17, wherein the medium comprises one of a film, a document, and a photograph.
  23. A method of digitizing a source image, comprising:  
collecting visible light data; and  
collecting infrared light data simultaneously on at least two color sensor channels.

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